

CLAIMS:

1. Method of manufacturing a device on a substrate, comprising:

- Depositing a metal layer with a thickness x on the substrate;
- Depositing a resist layer;
- 5 • Patterning of the resist layer using lithographic techniques, leaving a resist pattern with negative slopes;
- Depositing metal using a galvanic process;
- Removing the resist pattern;
- Sputter etching of the metal and the metal layer to remove said metal layer and provide a metal structure with sloped sidewalls;
- 10 • Depositing a first layer of a metal oxide; in particular aluminumoxide
- Forming self-aligned structures above the sloped sidewalls of the metal structure by etching the first layer of metal oxide until a predetermined thickness of metal oxide above the metal structure remains.

15 2. Method according to claim 1, characterized in that the depositing of the first layer of aluminumoxide is directly followed by:

- Depositing a non-transparent film on top of the first layer of aluminumoxide;
- Depositing a second layer of aluminumoxide on top of the non-transparent film;
- 20 • Polishing the aluminumoxide until all non-transparent film is removed.

3. Method according to any of the preceding claims, characterized in that before the depositing of the first layer of aluminumoxide, an oxide layer is deposited, in such a way that the oxide layer fills gaps between parts of the metal structure.

25 4. Method according to claim 3, characterized in that the oxide layer comprises SiON.

5. Method according to any of the preceding claims, characterized in that the metal structure comprises at least two electrodes of the device, the at least two electrodes defining a gap in between the at least two electrodes.

5 6. Method according to any of the preceding claims, characterized in that the self-aligned structures form sidewalls of microfluidic channels in a microfluidic device.

7. Method according to claim 1 or 2 or 5, characterized in that said metal structure comprises a plurality of separate electrodes.

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8. Method according to claim 7, characterized in that the device is a reflective electrowetting or electrophoretic display.

9. Method according to claim 7, characterized in that the device is a Field
15 Emitting Device and said first layer of aluminumoxide is etched until all of the aluminumoxide above the separate electrodes is gone, said method also comprising:

- Depositing a conducting layer on tops and outer sidewalls of the self-aligned structures and on top of the separate electrodes in such a way that electrically separated gates and emitters are created.

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10. Microfluidic device fabricated by using the method according to claim 6.

11. Electrowetting display fabricated by using the method according to claim 7.

25 12. Electrophoretic display fabricated by using the method according to claim 7.

13. Field emitting device fabricated by using the method according to claim 9.